

REMARKS

Claims 1 and 3-6 currently are pending. Claim 1 currently is amended.

Claims 1 and 3-6 are rejected under 35 USC § 112, first paragraph, because the specification, while being enabling for a process for producing biotin which comprises expressing a S-adenosylmethionine synthase gene of SEQ ID NO: 1 and biotin biosynthesis gene of SEQ ID NO: 3 in a prokaryotic or eukaryotic host organism able to synthesize dethiobiotin, does not reasonably provide enablement for using any of the functional variants, analogs or derivatives of SEQ ID NOs 1 and 3, or wherein the deduced amino acid sequences of gene sequences of SEQ ID NO: 1 and 3 have a homology of 80% and enable increased biotin production, or express the variously modified sequences in various host organisms irrespective of the host being capable of producing biotin, or its expression in regulation-defective biotin mutants (claims 3-6), either alone or in shared vector or on separate vectors. The Examiner believes the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

In response, applicants amend claim 1. Applicants delete the recitation of variants, analogs and derivatives in claim 1. The Examiner stated that the specification is enabling for a process for producing biotin which comprises expressing a S-adenosylmethionine synthase gene of SEQ ID NO: 1 and biotin biosynthesis gene of SEQ ID NO: 3 in a prokaryotic or eukaryotic host organism able to synthesize dethiobiotin (Office action, January 12, 2005, page 4, 4th paragraph). Therefore, applicants believe this rejection has been overcome and request its withdrawal.

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Claims 1 and 3-6 are rejected under 35 USC § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, has possession of the claimed invention. Specifically, the Examiner stated that claims 1 and 3-6 recite functional variants, analogs or derivatives of SEQ ID NOs 1 & 3, however, description to such functional variants, analogs or derivatives of SEQ ID NOs 1 & 3 is lacking.

In response, applicants amend claim 1 by deleting the recitation of variants, analogs and derivatives in claim 1. Therefore, applicants believe this rejection has been overcome and request its withdrawal.

Claims 1 and 3 are rejected under 35 USC § 102(b) as being anticipated by Kazuo because the Examiner believes it teaches a method of producing biotin, an important vitamin, by culturing microorganism and the biotin operon which must include a biosynthetic gene representative of functional variants, analogs or derivatives of any of SEQ ID Nos. 3, 5, or 7.

Anticipation can only be established by a single prior art reference which discloses each and every element of the claimed invention. *RCA Corp. v. Applied Digital Data Systems, Inc.*, 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984).

Kazuo does not teach an S-adenosylmethionine synthase gene having the sequence SEQ ID NO: 1 and at least one further biotin synthesis gene bioS1, bioS2 or bioS3, having the sequence SEQ ID NO: 3, 5 and 7. Applicants' claims no longer recite functional variants, analogs or derivatives. Applicants' claims no longer recite SEQ ID NOs 5 and 7. Therefore, applicants believe this rejection has been overcome and request its withdrawal.

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In view of the present amendment and remarks, applicants consider that the rejections of record have been obviated and respectfully solicit passage of the application to issue.

Applicants herein request an extension of time for two months. The appropriate fee is attached.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 14-1437. Please credit any excess fees to such deposit account.

Respectfully submitted,

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